



Joint Test & Evaluation Program Highlights



May 2006

The Congressional concerns that initiated the JT&E Program are especially valid today. Effective joint operations are no longer the aggregate of the Services' stand-alone warfighting capabilities. Combatant Commanders rely on the integration of Service capabilities, a task that the Services cannot accomplish individually. With its rigorous methodology, organizational flexibility, and responsiveness, the JT&E Program is uniquely prepared to assist decision-makers in solving a myriad of joint issues.

“Doing better with what we have”





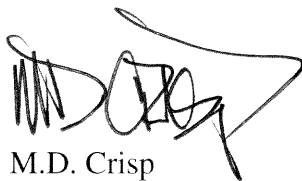
Cover Photo: The Purple Kill Box. A 3-D graphic depicting the integrated joint fires from the Joint Fires Coordination Measures (JFCM) JT&E.

FOREWORD

The JT&E Program has never been more focused on warfighter needs than we are today. Our most recent charters for joint test projects are addressing “War on Terror” issues, Homeland Defense initiatives, and mobile networking solutions for command and control. These projects are answering questions critical to the success of Regional Combatant Commanders and for Homeland Defense.

We are in our third year of conducting Quick Reaction Tests. This new and exciting venue for rapid assessment of operational problems has proven greatly beneficial to the warfighter. We are receiving more requests than we can realistically fund in a given year. The joint problems being submitted are credible and urgent issues that need to be resolved in a joint operational environment. We are making the hard choices on what we can fund but are also assisting the non-selects with identifying other potential venues for problem resolution.

This publication is a brief overview of some of the accomplishments the various joint test projects have made during the past year. I encourage you to find out more about the JT&E Program and discover how we may help you solve your warfighter issues. My staff and I are available to provide information on this beneficial program.



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Joint Test and Evaluation Program Highlights

Introduction

The JT&E Program provides non-material solutions to warfighting issues. It charters joint operational test projects that improve warfighting capabilities with existing equipment. The program develops solutions to joint operational problems and measures associated improvement through enhanced tactics, techniques, and procedures. It also measures improvements brought about by enhanced testing methodologies. The JT&E Program's objective is to provide near-term solutions to issues identified by the joint military community.

JT&E products include joint, multi-Service, and Service tactics, techniques, and procedures (TTP); joint and individual Service training programs; operational and scientific testing methodologies; joint or multi-Service data bases; test and training range procedures; and joint and multi-Service models and simulations.

Over the past 35 years, the basic mission of the program has not changed, yet the process and means to accomplish the mission has had to adapt and evolve to meet today's emerging operational requirements. During peacetime, JT&E projects had the luxury of time. Now, requirements for JT&Es come from the regional combatant commands, which push for immediate answers, and the JT&E Program has undergone a process transformation in which all test timelines were shortened to bring products to the warfighter more quickly. Through it all, the JT&E Program has provided products that are focused and that provide immediate warfighter value. The effectiveness of our products is validated by testing, and the effectiveness of the JT&E Program is based on Service contributions in manpower and expertise.

Notable JT&E Activities

New Joint Feasibility Studies

In February 2006, the JT&E Senior Advisory Council (SAC) directed two new Joint Feasibility Studies (JFSs). These JFSs were directed to develop their test concept during the next six-and-a-half months, after which they return to the SAC for a final decision on whether or not to charter them as 3-year JT&E projects. The new JFSs are:

Joint Command and Control of Net-Enabled Weapons (JC2NEW); a feasibility study that proposes to develop, test, and evaluate command and control (C2) concept of operations (CONOPS) and multi-Service TTPs used to facilitate the integration and interoperability of net-enabled weapons in the joint battlespace. JC2NEW is sponsored by the U.S. Air Force and will be conducted at Eglin AFB, Florida.

Joint Airspace Command and Control (JACC); a feasibility study that proposes to assess and make recommendations for improvements to relevant organizational structures, enhanced processes, current doctrine, joint TTP, and training regarding joint airspace command and control. JACC is sponsored by the U.S. Army, and will be conducted at Ft. Bliss, Texas.

Newly Chartered Tests

In February 2006, the JT&E SAC chartered four new JT&E projects that will provide valuable contributions to the warfighting community. These include:

The ***Joint C2 for War on Terror Activities (JC2WTA)*** JT&E project was chartered to test and evaluate new joint or multi-Service TTP designed to provide an effective means for the Joint Force Commander (JFC) to plan and execute missions to support the war on terror (WOT) from a clandestine forward deployed platform. Specifically, JC2WTA will improve C2 processes supporting the "find"

and “fix” portions of the assigned WOT mission. As a result of JC2WTA, TTPs will be developed that support this critical mission area and necessary feedback will be provided to improve Service and joint battle management systems. JC2WTA’s lead Service is the U.S. Navy, and is located at the Washington Navy Yard in Washington, DC.

The Joint Mobile Network Operations (JMNO)

JT&E project is preparing to develop joint TTP for warfighters using mobile internet protocol (IP) networks. JMNO was chartered to identify, test, validate, and recommend network operations procedures that enhance interoperability of IP-based mobile networks employed in joint, interagency, and coalition operations. Marine Corps Systems Command (MARCORSYSCOM) Quantico is the sponsoring command within the U.S. Marine Corps. JMNO will develop TTP as “Net-Centric Warfare” standard procedures that provide interoperability regardless of the Services’ material solution. Results will improve combat efficiency and effectiveness with joint mobile IP networks and help provide seamless joint battle space situational awareness.

Joint Test and Evaluation Methodology (JTEM)

JT&E was chartered to test and evaluate a methodology for defining and using a distributed live, virtual, and constructive (LVC) joint test environment to evaluate system performance and joint mission effectiveness. This will include those processes necessary to institutionalize testing (and training) in a joint environment. The JTEM JT&E project seeks to demonstrate viability of the methodology and processes to support operational, developmental, and joint test requirements in a realistic, joint mission environment. JTEM’s lead organization is DOT&E.

Joint Integrated C2 For Maritime Homeland Defense (JICM). The JICM JT&E project is chartered to employ multi-Service, interagency, and other Department of Defense (DoD) support, personnel, and equipment to investigate, evaluate, and make recommendations to enhance interagency

(DoD, government, non-government, regional, and international entities) maritime threat response. JICM will test and evaluate CONOPS and TTP employed to facilitate C2 of maritime threat response processes employed by DoD and Department of Homeland Security (DHS) functional and Service components. Lead Command is U.S. Northern Command.

Quick Reaction Tests

The recent JT&E Program transformation includes the introduction of Quick Reaction Tests (QRTs). Since transformation, a total of five QRTs have been directed, each QRT answering an emergent warfighter issue through rapid test execution and distribution of test products. Three of these directed QRTs, *Joint Survivability (JSURV)*, *Joint Shipboard Weapons Ordnance (JSWORD)*, and *Joint Forward Operations Base Force Protection (JFOB)*, have been completed. They leave in their wake notable benefits to the warfighter, which include from JSURV, a Combat Convoy Handbook, which helps mitigate the threats of improvised explosive devices (IEDs) to Coalition forces during vehicle convoy operations in Iraq and Afghanistan, from JSWORD a process for certification of specific non-Naval aircraft munitions used for training and operational missions without the requirement for a one-time waiver, and from JFOB a handbook designed to be a reference guide for those Service members supporting force protection activities at forward operating bases in Iraq. The handbook provides simplified tools that facilitate course-of-action development and requirements prioritization.

New Quick Reaction Tests

Joint Counter Remote Control Improvised Explosive Device Electronic Warfare (JCREW) QRT. The JCREW QRT was directed to employ multi-Service and other DoD component and agency support, personnel, and equipment to consolidate CREW employment training and provide consolidated training material for CREW jammers to the warfighter operating in the U.S.

Central Command (USCENTCOM) area of responsibility. Test results will be used to make recommendations to modify current Service, multi-Service, and joint training to improve the effectiveness of CREW systems. Test results will provide empirical data to support findings, conclusions, and recommendations to the joint operational, training, and acquisition communities. JCREW will develop requisite test products and make recommendations to improve associated doctrine, organization, training, materiel, leadership and education, personnel, and facility (DOTMLPF), as required. Army Test and Evaluation Command (ATEC) is the lead Operational Test Agency.

Joint Interoperability for Maritime Interdiction (JIMI) QRT. JIMI is an 8-month QRT directed to employ multi-Service and other DoD component and agency support, personnel, and equipment to investigate, evaluate, and make recommendations to Link 16 interoperability shortfalls that are critical to successful execution of maritime interdiction by joint assets. Test results will be used to make recommendations to modify current Service, multi-Service, and joint TTP to improve Link 16 network effectiveness for the maritime interdiction mission thread. Test results will provide empirical data to support findings, conclusions, and recommendations to the joint operational, training, and acquisition communities. JIMI will also develop requisite test products and make recommendations to improve associated DOTMLPF, as required.

Another ongoing QRT is the ***Joint Shipboard Ammunition and Ammunition Boards (JSAABR) QRT.*** This QRT is an 18-month test sponsored by U.S. Special Operations Command (USSOCOM) and employing multi-Service and other DoD agency support. This test will evaluate and make recommendations on how other Services can safely use non-Naval weapons when deploying from U.S. Navy ships. Ships present a unique challenge to joint operations because their concentration of radars, radios, and other electronic emitters send a mix of electromagnetic signals across their own

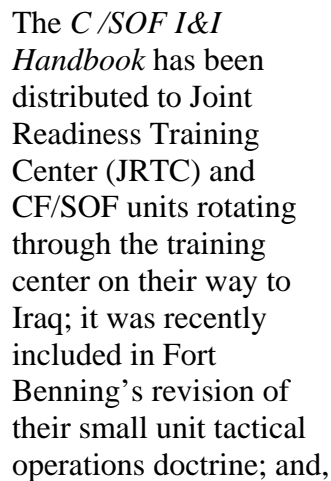
decks. The JSAABR QRT will provide the Services recommendations for shipboard safety procedures for non-Naval weapons and munitions that can be used from Navy ships and recommendations on how the Services can make their weapon systems more compatible with the shipboard environment.

JSAABR will add to safer and more realistic joint training and provide for seamless execution of sea basing operations. JSAABR QRT will expand current procedures by assessing munitions that may be approved for shipboard use without completing a full System Safety Risk Analysis (SSRA) and also assessing munitions that need additional testing. This will enable JSAABR to identify and develop detailed sub-processes for USSOCOM in these two areas. The JSAABR QRT will also determine how the newly formed Joint Weapons Safety Technical Advisory Panel, (JWSTAP) may facilitate certification of non-Navy materiel for shipboard use.

Continuing JT&E Contributions to Operation Iraqi Freedom

The Joint Integration and Interoperability of Special Operations (JIISO) JT&E project authors new Integration and Interoperability Handbook. JIISO's mission is to leverage multi-Service and other DoD agency support, personnel, and equipment to investigate, evaluate, and make recommendations to improve and streamline the JFC's integration and interoperability (I&I) of Special Operations Forces (SOF) and Conventional Forces (CF) during planning and execution of maneuver and fire support coordination to generate more timely actions and increased opportunities with less potential for fratricide.

In keeping with this mission, in November 2005, JIISO published its *Conventional Forces and Special Operations Forces Integration and Interoperability Handbook (CF / SOF I&I Handbook)*, which was developed and fielded in less than one year and now has nearly 3,500 copies



The *CF / SOF I&I Handbook* will soon be available on the US Marine's Center for Lessons Learned at www.mccell.umsc.smil.mil, and is currently available on the following websites:

- <http://jiiso.jte.osd.smil.mil> (JIISO)
- <http://www.socom.smil.mil/sokf/j7/Lessons-Learned> (USSOCOM)
- <http://call.army.smil.mil/focus/sof/sof-inter.asp> (Center for Army Lessons Learned [CALL])
- <http://www.jwfc.jfcom.smil.mil/jko/trng-resource/jdlchandbook> (Joint Warfighting Center, Joint Knowledge Online)

The *Joint Logistics/Planning Enhancement (JLOG/PE)* JT&E project was chartered to improve joint operational capabilities through enhancements in logistics sustainment information and processes. Commanders, logistics planners, and managers must have processes that allow them to rapidly transform logistics data into logistics information. Test products developed through JLOG/PE JT&E provide the means to increase process yields, implement process innovation and improvement, establish a common set of best practices, augment or modify joint TTPs, and document enhanced training opportunities. JLOG/PE was chartered to coordinate with Combatant Commanders and their logistics staffs to develop and test a variety of methods to enhance joint logistics. JLOG/PE closed down in March 2006 after four years of productive test and evaluation.

Rolling Brief - The Rolling Brief has significantly enhanced the J4 logistics staff's ability to perform their mission, while enabling them to conduct their information-handling tasks faster and more efficiently. Real-time situational awareness information has become more accessible within the PDDOC eliminating time consuming presentations and briefings by the action officer staff.

Methodology for the JS-MUREP - The JS-MUREP will replace the current MUREP, allow the staff to train as they fight, and will be the primary source of situational awareness information for the munitions managers. Munitions information will be obtained through the JS-MUREP more quickly and efficiently, supporting their requirements to identify

and resolve munitions issues and shortfalls and their efforts preparing briefings and other products.

Joint Logistics Training Package - The Joint Logistics Training Package will improve the training of personnel (newly assigned and reserve component) assigned to critical JTF positions through a Web-based design resulting in their ability to perform routine and non-routine activities more efficiently. The training package will produce trainees that better understand their roles and responsibilities and allow them to function more effectively.

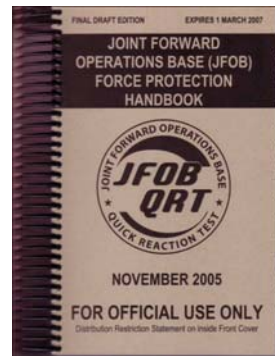
The efforts of JLOG/PE have vastly improved warfighter capabilities through the introduction of enhancement in the joint logistics sustainment planning and management processes. The use of these enhancements has and will continue to result in a more agile force that will be able to proactively assess operational logistics requirements.

The ***Joint Forward Operations Base Force Protection (JFOB) QRT*** was initiated as a quick reaction test to find quick solutions, and provide recommendations to the Services, to mitigate the threat of rockets, artillery, and mortars (RAMs) and also vehicle-borne IEDs on forward operations bases in Iraq.

February 2006 marked the final report and closedown of the JFOB QRT. This QRT identified an absence of standard measures for FOB defense. Consequently, rocket, artillery, mortar, and IED attacks continue to kill or injure U.S. and Coalition forces. The QRT proposed solution was FOB force protection TTPs with minimum standard protection measures. These standards and TTPs were documented in a JFOB Handbook.

The QRT leveraged four principal research programs for the JFOB Handbook development. These were (1) research being conducted under an Army 6.2 Research Program for Base Camp Survivability, (2) field testing of measures to reduce casualties conducted under Army Test and

Evaluation Command, (3) combat tested measures to reduce casualties, and (4) the Joint Staff sponsored Joint Antiterrorism Program Manager's Guide ("JAT Guide") process. All four of these research efforts share a common goal of reducing U.S. and Coalition casualties through improved TTPs with minimum standards to defend JFOBs. The JFOB Handbook expands on this research, providing technology transfer to end users, many of whom are either serving in or recently returned from Iraq.



The JFOB Handbook is intended for users who have responsibility for hands-on planning and development of FOBs and their assets. The handbook is designed to be a reference for those Service members supporting force protection activities at FOBs in Iraq. The handbook provides simplified tools that facilitate course-of-action development and requirements prioritization. The handbook product was developed in direct response to user requests to the QRT. Units given copies of the handbook have provided great, positive responses. Of particular interest is the overwhelmingly positive response received from two units in theater who have requested not only additional copies but also additional blast effects information regarding sidewall protection and overhead cover.

The handbook accompanying CD contains, among many other sets of information, a suggested force protection workbook format for use in data collection and knowledge management. This permits users to extract, modify, and print their own checklists and templates. The CD also provides a complete video and fact sheet summary of the Engineer Research and Development Center survivability experiments, allowing the user to fully understand weapons effects on structures made of identical materials to those found in Iraq.

U.S. Central Command (USCENTCOM) received a 30-day draft of the JFOB Handbook in March 2005. This and subsequent drafts were provided to USCENTCOM and users in theater. These copies were sent to select personnel; most were either in theater or recently returned. The 90-day draft received wider distribution in May 2005. User reviews were scheduled on a continuous basis between the 90-day and subsequent drafts. The final handbook was released in November 2005.

The Joint Improvised Explosive Device Defeat Task Force provided funding for printing and distribution for 4,000 copies of the final draft handbook. Additionally, funding also provided for development and execution of several mobile training sessions. The JFOB Handbook training is currently in development. Tentative start of the mobile training sessions is May of 2006. The JFOB CD is evolving into a menu-driven program that provides the look of an actual manual. It sorts and cross references processes, tools, and templates to drive a sequential analysis and program development for JFOB force protection planning and execution. The intent of this follow-on activity is to transition this CD to use by Service antiterrorism schools. The JFOB Handbook and CD are already being provided as a part of the Antiterrorism Officer (Level II) course.

During the QRT, the Joint Staff identified the handbook proponent for future maintenance beyond the QRT. The recommended post-QRT activity included submitting the handbook into a formal multi-Service or joint TTP development process. The Joint Staff Deputy Directorate for Antiterrorism and Homeland Defense (J-34) assumed long-range sponsorship of the handbook and provided direction and funding for handbook maintenance and limited distribution. USCENTCOM remains the primary customer for the handbook and directs content, distribution, and any training associated with the handbook. The U.S. Army Training and Doctrine Command, through its Maneuver Support Center, is sponsoring the TTP development through the Joint and Army Doctrine Directorate. Their nominating

committee recently approved the JFOB Handbook for development as a TTP.

Both the Joint Staff and USCENTCOM have strongly endorsed the handbook and have posted it for electronic access. The JFOB Handbook and accompanying information have been placed on the Antiterrorism Enterprise Portal and are available to subscribers world-wide. The handbook alone is available on the NIPRNet site and supporting classified information is available through the SIPRNet portal.

Highlights of Current Test Projects

The *Joint Fires Coordination Measures (JFCM)* JT&E project was chartered to employ multi-Service and other DoD agency support, personnel, and equipment to investigate, evaluate, and make recommendations to improve the operational effectiveness of kill box (KB) coordination measures to better integrate operational fires with maneuver. JFCM will test and evaluate the Joint Task Force and Component's ability to employ KBs as a fire support coordinating measure (FSCM). Specifically, JFCM will focus on developing and enhancing Service, multi-Service, and joint TTP employed at the operational level to plan and implement kill boxes as a FSCM.



The JFCM JT&E project completed Phase I and II testing and initiated planning for Phase III testing during this quarter. The Phase I objective was to study the concepts for planning and implementing KB (now called "joint fires areas" or JFA) by defining the processes that must be performed by the operational- and tactical-level C2 nodes. JFCM also held a General Officers Steering Committee (GOSC) video teleconference (VTC) and began product transition activities.

JFCM also initiated product transition through meetings and agreements with Joint Fires Integration and Interoperability Team (JFIIT), USCENTCOM, and USSOCOM.

JFCM and JFIIT are developing a memorandum of agreement for the production and publication of the completed JFA TTP within U.S. Joint Forces Command (USJFCOM) and to define JFIIT support for JFCM test events. RADM Joseph Keran (USSOCOM) is providing support to JFCM testing and JFA TTP development. USSOCOM is partnering with JFCM to integrate the production of the JFA TTP into the USSOCOM doctrine, training, and education on JFA as a FSCM.

The ***Joint Space Control Operations-Negation (JSCO-N) JT&E*** project was chartered to evaluate improvements to C2 processes and joint TTP associated with the space control negation (SC-N) mission. Its primary focus is on integrating the SC-N functions into the Joint Targeting Cycle at the Combatant Command (COCOM) level. Specifically, JSCO-N is evaluating the planning and assessment capabilities used at the COCOM to support the SC-N function. The two principal test issues are: (1) To what extent do alternative SC-N processes improve mission planning, and (2) To what extent do alternative SC-N processes improve mission assessment processes.

The ***Joint Data Link Information Combat Execution (JDICE) JT&E*** was chartered by the Office of the Secretary of Defense to develop joint TTPs and associated Link 16 network architecture modifications to increase the warfighter's situational awareness at the tactical level in support of the JFC. The overall objective is to provide timely, accurate, and complete tactically significant information to warfighters on the ground, in the air, and at sea to "save lives" through deconfliction from friendly forces and threats and to "improve mission effectiveness" for targeting and weapons delivery.

Link 16 is a secure data link that utilizes radio signals to transmit information for viewing via cockpit or a C2 system display terminal. JDICE has successfully developed and tested Link 16 TTPs for Army, Marine Corps, Special Operations and National systems. Each TTP focuses on deconfliction and targeting processes that filter data and allow operators to transmit actionable data via Link 16 for faster tactical reaction. All TTPs were executed simultaneously for the first time in a capstone Field Test executed in conjunction with the February 2006 Red Flag exercise at Nellis AFB, Nevada



During the Field Test at Red Flag, JDICE evaluated the interaction of multiple units performing TTP execution procedures to transmit tactical information as part of the exercise scenario. Personnel and equipment used to provide this information were operationally representative of real-world C2 centers and provided operational realism. Throughout the exercise, JDICE demonstrated how its TTPs provide timely, accurate, complete, and tactically significant information to Link 16 equipped platforms to provide situational awareness and prevent fratricide. Coalition forces were provided a visual representation that sorted out the friendly forces from the enemy and filtered out excess information. This ultimately resulted in improved threat avoidance, targeting, and weapons delivery.

JDICE worked closely with Red Flag planning personnel to enhance the operational training value of the exercise by introducing a wide variety of coalition and joint operators, warfighters, and ground war scenarios including Patriot batteries, C2 personnel, special operations, and scripted ground troops. This was the first time that an integrated ground and air war battle has been used in this exercise.

JDICE transmitted approximately 2,000 friendly, threat and target tracks from four different locations, on three military bases, and using the four TTP. Tracks included joint tactical air controller digital targeting, friendly positions, brigade movements, National derived threats, Patriot positions, and hostile activity.

JDICE TTPs enhance warfighters' capabilities by making existing systems more effective and interoperable, and provide a common operating picture of air and ground operations. JDICE efforts continue to pay numerous dividends to the warfighter and clearly demonstrate the OSD JT&E motto of "doing better with what we have."

The Joint Integration and Interoperability of Special Operations (JIISO) JT&E project's mission is to leverage multi-Service and other DoD agency support, personnel, and equipment to investigate, evaluate, and make recommendations to improve and streamline the JFC's integration and interoperability (I&I) of SOF and CF during planning and execution of maneuver and fire support coordination to generate more timely actions and increased opportunities with less potential for fratricide. Specifically, JIISO will test and evaluate the I&I of SOF and CF during tactical operations with a focus on evaluation of TTP and supporting system of systems (SoS). JIISO will continue to develop test products to support joint operational, training, and acquisition communities and recommend improvements to DOTMLPF. To see more on JIISO's significant contributions to the warfighter, see their article on page 3.

Summary

The JT&E team continues to meet the mission of increasing military effectiveness through rigorous and unbiased testing. Key test products from the full, three-year JT&E projects and more rapid QRTs have made their way to the warfighters at the "Tip of the Spear" in the war on terrorism throughout the globe, and continue to provide valuable, timely support to increase current warfighting capabilities.



Joint Test and Evaluation Program

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The Joint Integrated (Interagency and International) Command and Control for Maritime Homeland Defense (JICM) will help the U.S. Defend itself against maritime threats. Pictured: Members of the U.S. Coast Guard's Non Compliant Boarding Team (NCBT) prepare to board a fishing vessel suspected of transporting a terrorist during a simulated mission off the coast of Kodiak, Alaska during exercise Alaska Shield/Northern Edge 2005.